Amendments to claims:

1. (Currently amended) A method for real time detecting, locating and visualizing UV emittance caused by electrical discharge exhibited on electrical equipment in an environment illuminated by at least one of daytime outdoor illumination and equivalent artificial indoor illumination, the method comprising:

simultaneously acquiring through a common aperture and in a common optical axis a scene suspected of exhibiting electrical discharge ~~containing a source of UV emittance~~ with two separate imaging units, a first solar blind UV (SBUV) imaging unit imaging in the SBUV spectral band and comprising a solar blind filter, image intensified sensor, and a UV photocathode, and a second, true color visible imaging unit imaging in the visible spectral ~~spectrum~~ range; and

combining in real time the images as obtained by said simultaneous imaging through a common aperture and in a common optical axis, by overlaying in real time a first image obtained from said first SBUV imaging unit over a second true color visible image obtained from said second imaging unit thereby forming one combined and exactly registered true color visual image showing in real time the SBUV emittance of the electrical discharge in its exact position within the electrical equipment background ~~scenery of the scene~~ and with no parallax.

2. (Previously presented) A method according to claim 1 wherein the combining of said first and second images is carried out by optical combining means, allowing viewing of the combined visual image.

3. (Previously presented) A method according to claim 1 further comprising transferring the combined visual image into electronic recording and/or displaying means for recording and/or displaying the combined visual image.

4. (Original) A method according to claim 3 wherein the electronic recording and/or displaying means is a videotape and a video monitor.

5. (Cancelled)

6. (Currently amended) A method according to claim 1 further comprising, first acquiring in at least one of daytime outdoor illumination and equivalent artificial indoor illumination an image of the electrical equipment ~~scene to obtain an acquired image~~ having a spectrum spanning at least the visible ~~spectrum~~ spectral range and the SBUV spectral band ~~of the scene~~, and then separating the spectrum of the acquired image, wherein an UV spectrum of the acquired image in the SBUV spectral band is transferred into said first SBUV imaging unit, and the acquired image in the visible ~~spectrum~~ spectral range is transferred into said second true color visible imaging unit.

7. (Cancelled).

8. (Currently amended) Apparatus for real time detecting, locating and visualizing ~~real time UV emittance in an environment illuminated by~~ in at least one of daytime outdoor illumination and equivalent artificial indoor illumination an UV emittance caused by electrical discharge exhibited on electrical equipment ~~including corona, arcing and partial discharge~~, comprising:

image acquiring means with two separate imaging units, for acquiring through a same aperture of the apparatus and along a common optical axis an image of ~~a scene~~ electrical equipment suspected of exhibiting electrical discharge, the image spanning at least a visible spectrum and a Solar Blind UV (SBUV) spectrum, and for simultaneously providing a UV ~~first~~ image from the scene into an SBUV imaging unit, and a visible ~~second~~ image from the scene into a visible true color imaging unit;

said SBUV imaging unit comprising:

a. a solar blind ultraviolet optical filter allowing transmittance of optical radiation in a solar blind UV ~~spectrum~~ spectral range only, and absorbing optical radiation in all other spectral regions;

b. SBUV image providing means comprising an image intensified SBUV image sensor for receiving the optical radiation in the SBUV spectral range only, passed

through said solar blind ultraviolet optical filter, and producing a first visual image of the electric discharge, being a solar blind UV emittance image;

said true color visible imaging unit receiving said second image of the ~~scene~~ electrical equipment from the image acquiring means, and producing a second true color visible image, representing visible background scenery of the ~~scene~~ electrical equipment; and

combining means for receiving the first visual image of the UV emittance from the SBUV imaging unit and the second true color visible image from the visible imaging unit, and combining in real time by overlaying said first visual image of the SBUV emittance over said second visible image thereby producing one combined and exactly registered true color visual image showing in real time the UV emittance of the electrical discharge in its exact position within the true color background ~~scenery~~ image of the electrical equipment and with no parallax.

9. (Currently amended) Apparatus according to claim 8 wherein the image acquiring means comprises two image acquiring elements, a first element providing the first image of the ~~scene~~ UV emittance into the SBUV imaging unit, and a second element providing the second image of the ~~scene~~ electrical equipment into the true color visible imaging unit.

10. (Currently amended) Apparatus according to claim 9 wherein the first and second image acquiring elements incorporate optical lenses.

11. (Previously presented) Apparatus according to claim 8 wherein the solar blind ultraviolet optical filter is positioned one of before an optical lens of the SBUV imaging unit, after the optical lens of the SBUV imaging unit, and incorporated within the optical lens of the SBUV-imaging unit.

12. (Currently amended) Apparatus according to claim 8 wherein the image acquiring means comprises a beamsplitter receiving optical beams from the scene along said common optical axis, and splitting the received optical beams so that the beams spanning

at least the SBUV emittance spectrum of the electrical discharge are directed towards the SBUV imaging unit and the beams spanning at least the visible spectrum emanating from the electrical equipment scene are directed towards the true color visible imaging unit.

13. (Original) Apparatus according to claim 12 wherein the beamsplitter is a dichroic beamsplitter.

14. (Currently amended) Apparatus according to claim 8 wherein the SBUV imaging unit further comprises a first lens receiving the radiation in the ~~solar-blind~~ UV spectral ~~spectrum~~range passing through the solar blind ultraviolet optical filter, and producing by said image intensified SBUV image sensor the solar blind UV image of the ~~scene~~ UV emittance of the electrical discharge, wherein the ~~scene~~ electrical equipment is suspected of ~~containing a source of UV emittance~~ exhibiting electrical discharge.

15. (Currently amended) Apparatus according to claim 14 wherein said first visual image, which is produced by the image intensified SBUV image sensor, is located at an image plane of the first lens, said image sensor creates a visual image of the solar blind UV image of the ~~scene~~ UV emittance of the electrical discharge.

16. (Previously amended) Apparatus according to claim 15 wherein the SBUV image sensor contains a fluorescent screen.

17. (Cancelled).

18. (Currently amended) Apparatus according to claim 15, wherein the image intensified SBUV image sensor is selected from among a group of sensors consisting of ~~CCD,~~ BCCD, EBCCD, ICCD, MCP-PMT having multianode, and MCP-PMT having position sensitive anode output, for producing first electronic signals describing said UV image.

19. (Currently amended) Apparatus according to claim 8 wherein the combining of the first visual image of the solar blind UV ~~range~~ emittance of the ~~scene~~ electrical discharge

and the second visible image of the electrical equipment is carried out by a beamsplitter simultaneously receiving said first and second images.

20. (Currently amended) Apparatus according to claim 8, wherein the true color visible imaging unit comprises an image sensor selected from among a group of sensors consisting of CCD, CMOS, and CID, receiving said second true color image from the scene, and producing second electronic signals describing said second true color visible image.

21. (Previously presented) Apparatus according to claim 8, wherein the combined visual image is obtained by at least one of arithmetic mixing, non-arithmetic mixing, luminance keying and chroma keying, for combining first and second electronic signals representing the first and second images, respectfully.

22. (Currently amended) Apparatus according to claim 8 further comprising electronic recording and/or displaying means for recording and/or displaying the combined true color visual image.

23. (Previously presented) Apparatus according to claim 22 wherein the electronic recording and/or displaying means is a videotape or a video monitor.

24. (Currently Amended) Apparatus according to claim 8 wherein the true color visible imaging unit comprises only passive optical elements and the SBUV imaging unit comprises passive optical elements and a UV image intensifier, wherein both said visible and SBUV separate imaging units acquire their images from said common optical axis and both apply same effective magnification.

25. (Original) Apparatus according to claim 24 made in a monocular form.

26. (Original) Apparatus according to claim 24 made in binocular form.

27. (Original) Apparatus according to claim 8 further comprising stills camera means for recording the combined visual image on a stills camera film.

28. (Currently Amended) Apparatus according to claim 21 further comprising a processing unit for processing at least one of the first and second electronic signals for at least one of improving the contrast between the image of the SBUV emittance and the background scenery in the combined visual image, for the elimination of noise, the identification of UV emitters in the scene, and the capture of transient UV events in the scene.

29. (Original) Apparatus according to claim 28 wherein the processing unit is a digital processing unit.

30. (Original) Apparatus according to claim 28 wherein the processing unit is an analog processing unit.

31. (Previously presented) Apparatus according to claim 28 further comprising means for providing an alarm as to the detection of UV emittance which is above a predefined threshold level.

32. (Previously presented) Apparatus according to claim 28 further comprising means for initiating action as to the detection of UV emittance which is above a predefined threshold level.

33. (Cancelled)

34. (Previously presented) Apparatus according to claim 32 wherein the action is documentation of UV emitting events in the scene.

35. (Currently amended) A method for real time detecting, locating, and visualizing ~~emittance~~ in at least one of daytime outdoor illumination and equivalent artificial indoor

illumination UV ~~source~~ emittance on electrical equipment caused by electrical discharge, and emittance of IR ~~scenery in a common scene suspected~~ of ~~containing a source of UV emittance~~ the electrical equipment comprising:

simultaneously imaging through a same aperture and in a common optical axis the ~~scene and its~~ IR ~~background scenery~~ of the electrical equipment and the SBUV emittance of the electrical discharge with two separate imaging units, a first solar blind UV (SBUV) imaging unit imaging in the SBUV spectral band and comprising a solar blind filter, image intensified sensor, and a UV photocathode for forming and displaying an image of said UV emissions~~-~~, and a second IR imaging unit for visually forming and displaying an image of the IR scenery; and

combining in real time the images as obtained by said simultaneous imaging through a same aperture and in a common optical axis, by overlaying in real time the image formed by said SBUV imaging unit over the image formed by said IR imaging unit, thereby forming one combined and exactly registered visual image showing in real time the UV emittance of the electrical discharge and the IR emittance of the electrical equipment in their exact positions within the scenery with no parallax.

36. (Cancelled)

37. (Cancelled)

38. (Cancelled)

39. (Cancelled).

40. (Cancelled)

41. (Cancelled)

42. (Cancelled)

43. (Cancelled)

44. (Cancelled)

45. (Cancelled)

46. (Cancelled)

47. (Cancelled)

48. (Cancelled)

49. (Cancelled)

50. (Cancelled)

51. (Cancelled)

52. (Cancelled)

53. (Cancelled)

54. (Cancelled)

55. (Cancelled)

56. (Cancelled)

57. (Cancelled)

58. (Cancelled).

59. (Previously presented) Apparatus according to claim 8, wherein the image acquiring means comprises an optical lens which acquires SBUV and visible light beams from said common optical axis and transmits the SBUV light beams spanning the UV image towards the SBUV imaging unit, and a mirror in front of a central portion of said lens, for reflecting light in the visible spectrum towards the true color visible imaging unit.

60. (New) Method according to claim 1, wherein the electrical discharge is selected from partial discharge, corona and arcing.

61. (New) System according to claim 8, wherein the electrical discharge is selected from partial discharge, corona and arcing.

62. (New) Method according to claim 35, wherein the electrical discharge is selected from partial discharge, corona and arcing